CALFED ERP Conservation Strategy:
Stage 2 Implementation in the Delta and Suisun Planning Area

Presentation to the CALFED Agency Coordination Team

January 8, 2008

Prepared by

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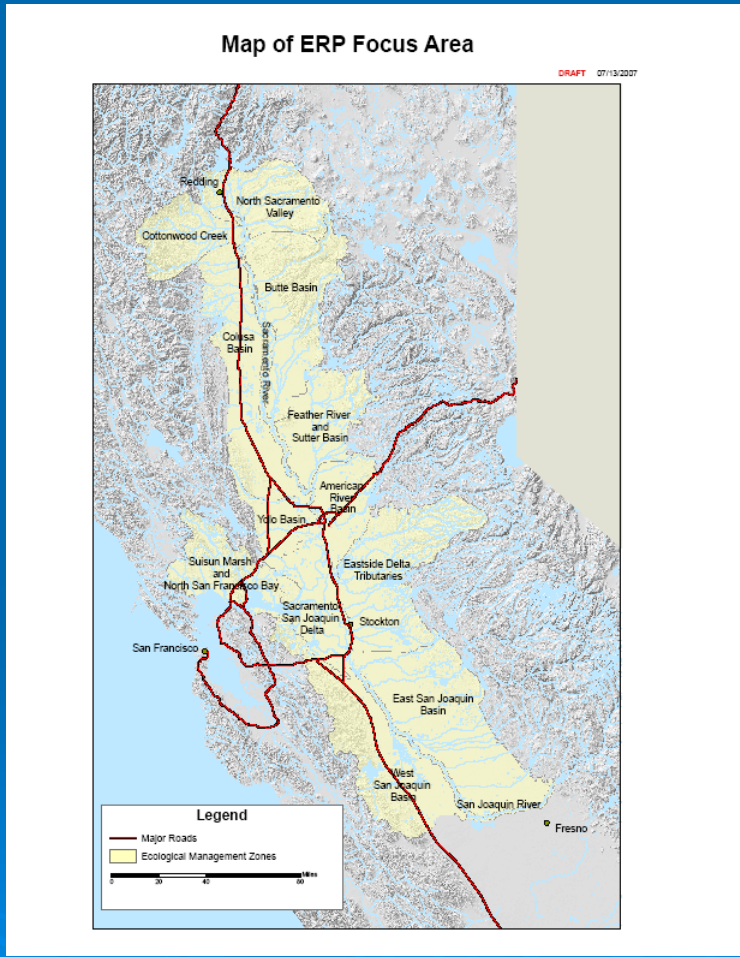
Caveats for the Conservation Strategy

- For Planning purposes only
- Non-regulatory
- Willing Sellers

Focus of the Conservation Strategy

- The Entire CALFED ERP Focus Area



ERP Conservation Strategy

- Current geographic focus is the Delta and Suisun Marsh and Bay ("Delta and Suisun Planning Area")
- Conservation strategy components specific to the remainder of the ERP Focus Area (San Joaquin and Sacramento Valleys, East Side Tributaries, and North San Francisco Bay) will be developed in the future (2008)

Purpose

- Describe the ERP Implementing Agencies' views on ecosystem restoration goals, objectives, and priorities for Stage 2 of ERP implementation
- Intended to serve as guidance to related planning efforts (Delta Vision, BDCP, and DRMS) for ecosystem restoration and land and water development in the Delta and Suisun Planning Area

Sources for Conservation Strategy

- ERP foundation documents
- Delta Risk Management Strategy (DRMS)
- Bay-Delta Conservation Plan (BDCP)
- DRERIP conceptual models
- POD studies and plans
- PPIC report
- USFWS and NMFS Recovery Plans
- Suisun Marsh Planning
- Other planning, literature

ERP Goals

- **GOAL 1. ENDANGERED AND OTHER AT-RISK SPECIES AND NATIVE BIOTIC COMMUNITIES**
- **GOAL 2. ECOLOGICAL PROCESSES**
- GOAL 3. HARVESTED SPECIES

- **GOAL 4. HABITATS**
- GOAL 5. NONNATIVE INVASIVE SPECIES
- GOAL 6. WATER AND SEDIMENT QUALITY

ERP Conservation Strategy for Delta and Suisun Planning Area

- **Biological Vision** for the Delta and Suisun Planning Area:

An ecosystem-based approach to species recovery focused on improving ecological processes and habitats and reducing stressors

Key Assumption

- The method and operation of water conveyance is a primary factor influencing ecosystem restoration.
- Shifting from reliance on thru-Delta conveyance allows greater opportunities for improving ecological processes and habitat restoration throughout the Delta and Suisun Planning Area.

Improvements to Critical Ecological Processes

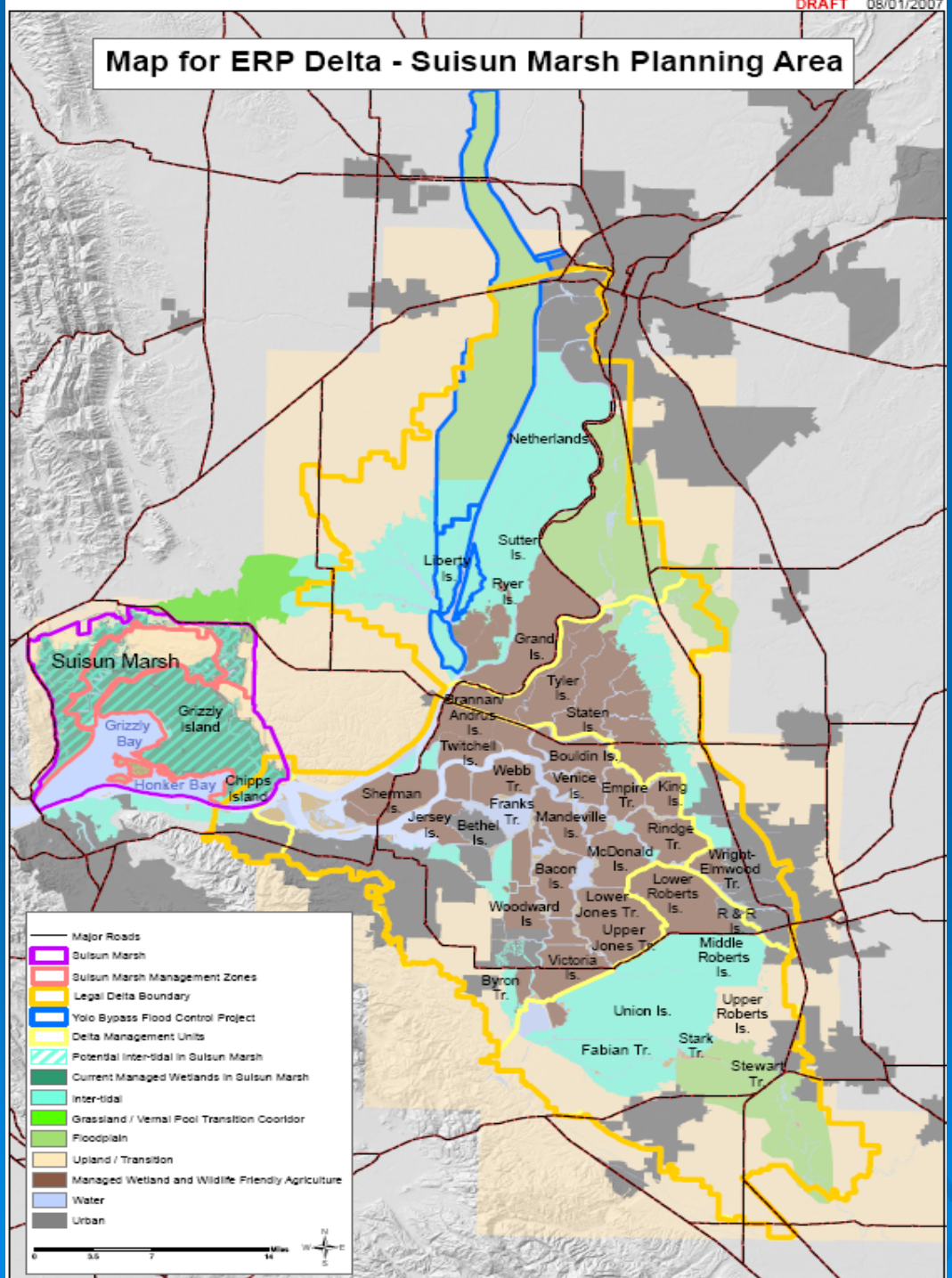
- Hydrology
  - freshwater flow
  - salinity variation
  - turbidity
- Aquatic food web dynamics
- Floodplain-channel connectivity

Restoration of Habitat

- Five broad categories for lands within the Planning Area:
  - **Intertidal**
  - **Floodplain**
  - **Upland (Transition)**
  - **Grassland/Vernal Pool Transition Corridor**
  - **Subsided lands (Subsidence reversal, managed wetlands & wildlife-friendly ag)**

Restoration of Habitat, cont.

- Development of the ERP Conservation Strategy Map:
  - Land elevations used to identify where conditions are potentially suitable for the five habitat categories
  - Map will be revised based on new LiDAR data, historical bathymetric maps, soils maps, climate change predictions, infrastructure, and water conveyance.
- Identification of preliminary acreage targets for intertidal and floodplain restoration



Preliminary map of Delta and Suisun Planning Area, showing suitability of land areas for habitat protection, restoration, and management, based on land elevation.

Acreages for the Five Land Categories in the Delta

Land Categories	Acres
Intertidal	163,700
Floodplain	96,400
Upland	127,900
Grassland/Vernal Pool	14,900
Subsided Islands	180,200

Stressors Reductions

- Water diversions
- Non-native and/or invasive species
- Water quality
  - Pesticides (e.g., pyrethroids), toxicity, & other constituents
  - dissolved oxygen
  - mercury and methylmercury
  - Ammonium

Target Species

- Native aquatic and terrestrial species including fish, birds, mammals, plants, and other organisms
- Includes all BDCP proposed covered species

Future Conditions & Ecosystem Response

- Six “drivers of change” (Mount & Twiss 2006)
  - Subsidence
  - Sea level rise
  - Regional climate change
  - Catastrophic events
  - Invasive species
  - Urbanization
- Includes implications for ecosystem processes, habitat restoration, and stressors

Implementation Strategy

- Identifies “next steps” in Conservation Strategy development
- Governance
- Current and future funding considerations
- ERP Science Standard (e.g., “vetting” of actions using DRERIP conceptual models)
- Performance measures (measurable objectives)
- Comprehensive monitoring program
- Adaptive Management

Science

- To ensure scientific integrity of the ERP conservation strategy for Stage 2, the ERP Agencies are relying primarily on the CALFED Independent Science Board (ISB), CALFED Science Program, and the DRERIP Adaptive Management Planning Team (AMPT) (ISB 2007; Science Program 2007; DRERIP 2007).

The AMPT and the DRERIP Models

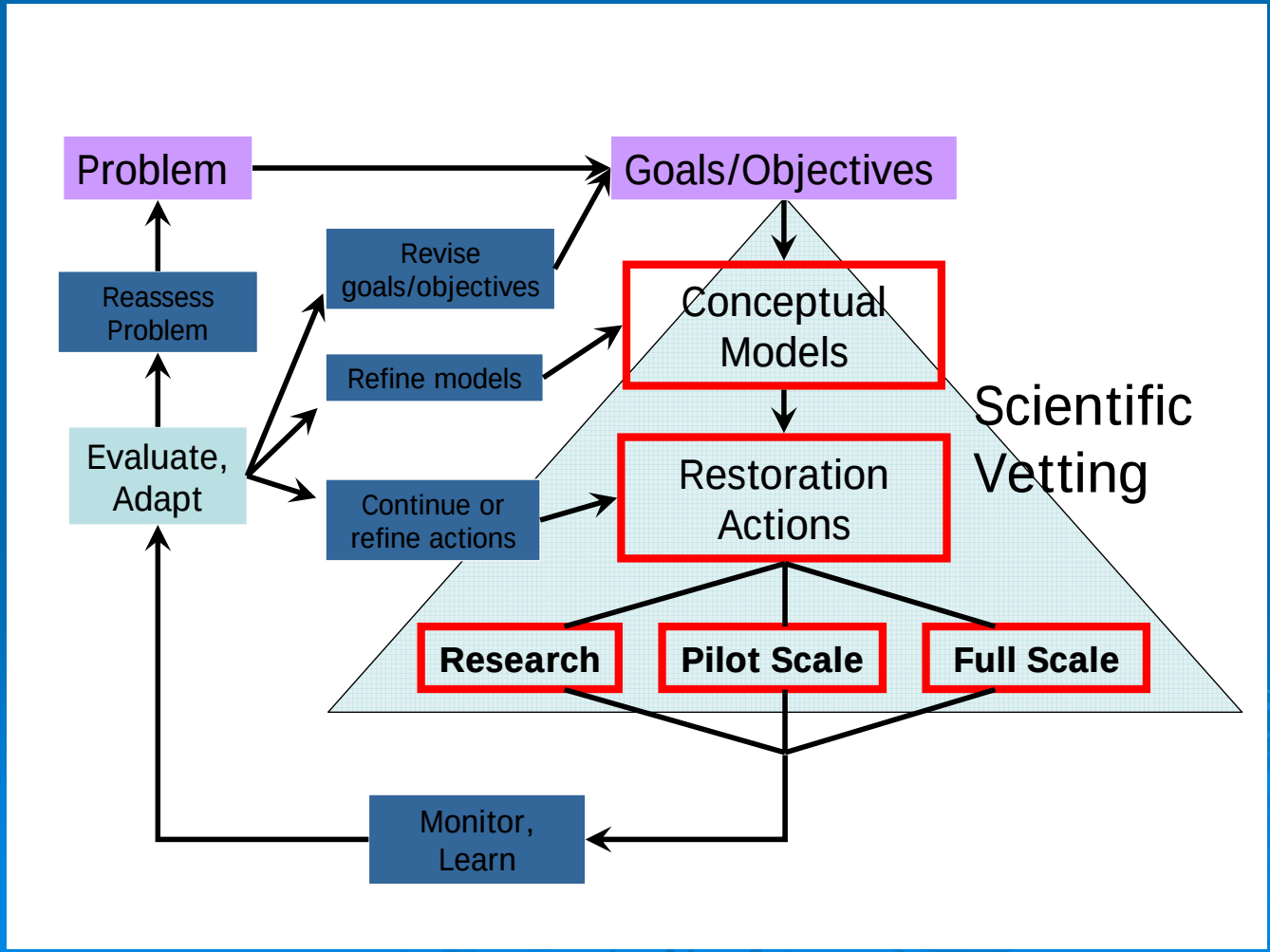
- Will form the scientific basis for ERP planning for the Delta EMZ.
- Conceptual Models for Delta ecological processes, habitats, stressors, and species are being finalized. (Jan 2008)
- These models will to be used to evaluate restoration actions identified in the ERPP, Conservation Strategy, other planning efforts and to develop updated actions

Monitoring, Adaptive Management, and Performance Measures

- CALFED Performance Measures Subgroup
- ERP Agencies
- IEP
- AMPT (DRERIP Conceptual Models)
- Science Program (CMARP)
- ISB

- Application of the DRERIP models in vetting actions will highlight uncertainties and form the basis for future research and hypothesis testing as part of adaptive management.

Diagram of the adaptive management process (adapted from CALFED 2000).



Status of Conservation Strategy

- Current Draft dated 12-13-07 has been circulated to BDPAC Eco-subcommittee and BDCP Steering Committee (comments due Jan. 11, 2008)
- Strategy has been presented to Delta Vision
- Next Draft March 2008